The perceived credibility of forward-looking performance disclosures

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Abstract

We investigate the investor perceived credibility of forward-looking performance disclosure (FLPDs) in the narrative sections of the annual reports. Our proxy for these disclosures is an index of statements about future performance. We find that companies issue more FLPDs when they raise debt or convey bad news in the financial statements in the form of earnings declines, missing analyst earnings forecasts and underperforming the industry peers. In the presence of these managerial incentives, investors condition the use of FLPDs on the quality of earnings reported in the audited financial statements. Our results suggest that firms derive a credibility benefit for their narrative disclosures from having a reputation for high quality earnings.

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1. Introduction

We investigate the investor perceived credibility of forward-looking performance disclosure (FLPDs) that managers provide in annual reports. Our proxy for these disclosures is a score that counts statements about future performance that managers disclose in the narrative sections of the reports. Regulators' interest in the content of these narrative sections has grown on the belief that they improve the relevance of corporate reporting (Beattie et al. 2004). Empirical evidence so far suggests that indeed FLPDs correlate with stock prices that are more informative about future earnings. However, as FLPDs are not immediately verifiable or auditable, managers may also use them when they have incentives to be misleading or untruthful. The disciplining risk of shareholder litigation might be less operative in this case as FLPDs are often qualitative. To guard against misleading performance disclosures, investors may look for information quality of the audited financial statements. This provides scope for maintaining high quality in reported earnings to enhance the perceived credibility of FLPDs. In this paper we explore managerial incentives underlying FLPDs and whether investors condition reliance on FLPDs on the quality of reported earnings in the presence of these incentives.

Annual report narratives in the form of management discussion and analysis sections, referred to as the MD&A in most countries and the operating and financial review (OFR) in the UK, have been gaining increasing prominence. The formalized structure of these narratives and their release in regular intervals make then rank highly as a communication source by different groups of stakeholders. We focus on those parts of the narratives that include FLPDs, e.g. the chairman's statement, the CEO's and CFO's reviews, and the operating and financial review in UK non-financial companies. FLPDs refer to information on expected payoffs from current and

future investment plans and structural business changes that enable users to predict a company's future financial performance. In the UK information about current and future trading is typically made through such qualitative narrative statements, rather than quantitative management earnings forecasts (Schleicher and Walker 2010, Brennan 1999). As FLPDs tend to be qualitative in nature, non-time specific and dominated by good news (Bujaki et al. 1999, Clarkson et al. 1992, Clarkson et al. 1994, Clatworthy and Jones 2003), it is hard for investors to assess their credibility. Focusing on UK firms' disclosure practices is also topical given the increasing efforts of the Financial Reporting Council (FRC) to improve the quality of narrative reporting (FRC 2012). Our study informs accounting regulators about managerial incentives underlying narrative reporting and the safeguards that investors use against soft and less easily verifiable disclosures.

We measure the frequency of forward-looking performance disclosure using a score that counts the number of FLPDs in annual report narrative sections (Hussainey et al. 2003; Li, 2010a; Muslu et al. 2012).[1] To explore the role of managerial incentives underlying the disclosure of FLPDs we draw from voluntary disclosure models (Verrecchia, 1983, Dye, 1986, Wagenhofer, 1990, Bagnoli and Watts 2007) and prior empirical studies on the determinants of voluntary disclosure (Section 2). Our analysis shows that the frequency of FLPDs is part of a 'sticky' disclosure policy. Controlling for the persistence of FLPDs across years, we find that proprietary costs and equity offerings in the current period restrain managers from issuing further FLPDs. Managers' openness about future performance increases with information demands of the investment community and when firms issue debt and report bad news in the financial statements,

[1] Recent research relies heavily on computer software packages to measure levels of narratives disclosures. These include Kothari et al (2009); Feldman et al. (2010); Brown and Tucker (2011); Gruning (2011); Davis et al. (2012). For an extensive review on the use of computer-based content analysis to measure levels of disclosure, see Li (2010b). We focus on forward-looking earnings statements within narrative disclosures.

e.g. earnings declines, falling short of analyst forecasts and underperforming relative to industry peers.

In assessing the perceived credibility of FLPDs we draw from the framework of Mercer (2004), who approaches the credibility of management disclosures through the extent that investors view the disclosures as 'believable'. Accordingly we measure the perceived credibility of FLPDs through the extent that investors rely on these disclosures. Prior research on the value relevance of FLPDs shows that managers use them to 'bring the future forward' as their *frequency* increases the ability of the stock market to anticipate earnings (Schleicher and Walker, 1999, Hussainey et al., 2003, Schleicher et al, 2007, Hussainey and Walker 2009, Muslu et al. 2012). We complement this line of research by investigating investors' reliance of FLPDs in the presence of situational incentives that managers have at the time of the disclosure. By situational incentives we mean managers' incentives to open up about future performance triggered by specific events or circumstances, e.g. debt or equity offerings, reporting of bad earnings news conveyed in the financial statements. Under these circumstances investors face high uncertainty about the credibility of management disclosures, as managers have strong incentives to manage performance perceptions. As FLPDs are mostly qualitative and therefore not easily verifiable, it is difficult to infer management *forecasting reputation*. We therefore investigate whether in these cases investors provision reliance on FLPDs on earnings quality. By earnings quality we mean the precision of the earnings signal emanating from the audited financial statements. This reflects managers' *reporting reputation*.

To capture investors' reliance on FLPDs we assess the effect of FLPDs on the current and future earnings information impounded in stock prices. We find that while on average FLPDs increase the share price anticipation of future earnings, investors do not rely

unconditionally on FLPDs of firms that issue debt or report bad news in the financial statements. In the presence of these situational incentives we find that investor reliance on FLPDs depends on reported earnings quality, i.e. FLPDs help investors re-assess information in contemporaneous earnings and anticipate future earnings only when reported earnings are of high quality. This finding is sustained when considering simpler earnings properties (e.g. earnings volatility), filtering out the variation of earnings quality that is related to business fundamentals, and controlling for other aspects of the firm's information environment (e.g. analyst following and forecast dispersion). We conclude that firms' reputation for high quality earnings affects the perceived credibility of its forward-looking disclosures.

Our findings contribute to the literature examining the relevance of forward-looking disclosures. We demonstrate that investors do not rely unconditionally on FLPDs. When firms issue debt or report bad earnings news in the financial statements, investors rely on disclosures of firms with higher earnings quality. The insights of our investigation are timely for policy-makers and regulators who are currently considering ways to improve communication between companies and investors in the annual report narratives (Financial Accounting Standards Board 2012, FRC 2012). The stock market appears to use information in the audited financial statements in deciding how much reliance to place on these narratives. For managers this evidence suggests that there is a credibility benefit for the narrative disclosures from having a reputation for high quality in reported earnings. This implies an additional incentive for managers to invest in earnings quality as part of the firm's reputational capital. Finally, our study contributes to the literature on accounting and disclosure choices. Our findings corroborate evidence on the interaction between reporting and disclosure choices (Bagnoli and Watts 2007, Francis et al. 2008), providing additional insights on how investors to extract information from

mandatory reporting to decide reliance on 'softer' forward-looking disclosures. Our evidence reiterates the need to examine accounting and disclosure choices as part of a general reporting and disclosure equilibrium.

2. Theoretical Framework and Prior Research

Agency theory motivates voluntary disclosure as a mechanism to reduce information asymmetry (Healy and Palepu 2001, Core 2001). Research on forward-looking disclosures has largely focused on the quantitative management earnings forecasts provided in press releases. This research generally finds that the frequency of management earnings forecasts is higher for large firms, firms with less volatile earnings and a long string of meeting analyst forecasts and firms issuing securities (Baik and Jiang 2006, Ruland et al., 1990, Lees, 1981, Gibbins et al., 1990, Lev and Penman, 1990, Frankel et al., 1995, Waymire, 1985, Cox, 1985 and Imhoff, 1978). A number of studies also examine forward-looking disclosures that managers provide in annual reports and press releases. These studies, often limited to a small sample size (Lakhal, 2005, O'Sullivan et al. 2008), use the traditional content analysis approach to count the number of sentences containing earnings forecasts in the narrative sections. More recent research that has used computer software to measure levels of FLPDs in the annual report narratives, as we do, has provided some evidence on the agency considerations underlying such disclosures (Schleicher et al. 2007, Hussainey and Al-Najjar 2011)).[2] We build a framework for the factors affecting the frequency of FLPDs that focuses on how earnings news in the audited financial statements induces managers to open up about future in their annual report narratives. Our model extends

[2] On the determinants of forward-looking disclosure some evidence is also contributed by studies focusing on the 'tone' of forward-looking disclosures. Li (2010a) finds that firms with better current performance, smaller size, less return volatility and lower market-to-book ratios issue *more positive* forward-looking disclosures. Since we examine factors affecting managers to be more forward about future performance in their reports, we focus on the *frequency* forward-looking disclosures.

existing approaches by incorporating managers' strategic reporting incentives that prior research has used for other types of voluntary disclosures (e.g. Aboody and Kasznik, 1999, Schrand and Walther, 2000 and Zechman, 2010). In the presence of such incentives the issue of the perceived credibility of FLPDs becomes crucial.

In examining the relevance of FLPDs, prior research has focused on the association of FLPDs with future performance and the extent that they help investors anticipate future earnings. Clarkson et al. (1994) find the inclusion of forward-looking information makes corporate annual reports more informative about future performance. Similarly, on a sample of MD&As, Bryan (1997) finds that indications of envisaged future operations and capital expenditures are associated with future short-term performance. Clarkson et al. (1999) show that changes in the level of forward-looking information in the annual reports are also informative as they seem to vary with future corporate performance.[3] Barron et al. (1999) shed light on the effect of forward-looking disclosure on the capital markets. They show that MD&A disclosures have a substantial impact on analyst earnings forecasts and that higher MD&A scores improve forecast accuracy. Bozzolan et al. (2009) find that quantified forward-looking disclosures in annual reports of Italian, German, French and Swiss firms cross-listed in the US improve forecast accuracy and reduce analyst forecast dispersion. Focusing on investors, Miller and Piotroski (2000) show that, for forward-looking disclosure firms stock returns are more correlated with the next period's earnings than for non-disclosure firms. Similarly, Gelb and Zarowin (2002) and Lundholm and Myers (2002) show that firms with higher AIMR disclosure scores help investors 'bring the future forward' as they have a higher amount of future earnings news reflected in their current

[3] For completeness, we reaffirm the information content of FLPDs by examining their predictive ability for future performance. We confirm that FLPDs, and annual changes in FLPDs, are positively associated with future changes in profitability.

annual returns.[4] Schleicher and Walker, (1999), Hussainey et al. (2003), Schleicher et al. (2007), Hussainey and Walker (2009), and Muslu et al. (2012) also provide evidence that FLPDs make stock returns incorporate future earnings in a more timely fashion. This line of research, has not explicitly addressed the credibility issue that arises from the non-verifiable nature of FLPDs in the UK. Jennings (1987) argues that investors' reactions to managerial disclosures are a function of the credibility ('believability') of the disclosure. Two companies that are equally forward about future performance in their annual report narratives, but not equally 'believable', may elicit different responses from investors. Prior research identifies management credibility as a key factor affecting the credibility of management disclosures as the credibility of a message depends on the credibility of the messenger (Birnbaum and Stegner 1979, Mercer 2004, Kothari 2009). This research draws inferences mainly based on the analysis of quantitative and largely verifiable information disclosed by management, the most common type being management earnings forecasts issued by US firms and proxies management credibility through forecast accuracy.[5] With management forecasts, accuracy can be assessed straightforward through subsequent financial statements. Monitoring however the accuracy of FLPDs in the UK is difficult given their qualitative nature. Schleicher and Walker (2010) highlight this issue and provide evidence that firms with large impending earnings declines bias upwards the tone of their FLPDs. This evidence raises suspicion over the role of FLPDs especially in the presence of

[4] The Financial Analysts Federation disclosure ratings of the Association for Investment Management Research produced the AIMR-FAF ratings by evaluating firms' disclosures along three dimensions: a) the detail of information disclosed in annual published reports b) the detail of information in quarterly reports and c) the responsiveness and openness of management to analyst questions. These ratings covered all the various disclosures made by firms, including verbal information given during analyst meetings and conference calls. However, prior research using these ratings argues that it is not clear how analysts select firms to be included in the ratings, suggesting the existence of a strong bias towards the largest firms in each industry sector. The financial analysts federation discontinued the ratings in 1995.

[5] Investors may assess the credibility of management forecasts through ex-post realizations. Consistent with this notion, prior research finds that investors rely on earnings forecasts more when firms have provided accurate forecasts in the past (Williams 1996; Hirst et al. 1999; Mercer 2004, Hutton and Stocken 2007).

managerial incentives. Demers and Vega (2009) suggests that investors' reliance on soft non-verifiable information depends on factors related to the firm's information environment. We complement this line of research by investigating how investors' reliance on FLPDs varies with managerial incentives and whether in the presence of these incentives investors use reported earnings quality as a safeguard. We focus on earnings quality as a factor of the firm's information environment as it is directly affected by managers, i.e. the 'messenger' of FLPDs.

Drawing from persuasion models, Mercer (2004) argues that investors are less likely to rely on management disclosures when managers have incentives to be misleading or untruthful at the time of the disclosure. While in the presence of situational incentives managers may use FLPDs to release their superior information, they face greater benefits and lower costs from providing inaccurate disclosures. Koch (2002) claims that to be the case with firms facing financial distress. In a similar notion, Lang and Lundholm (2000) argue that higher disclosures before equity offerings reflect managerial attempts to hype the stock rather than reduce information asymmetry, as this disclosure is optimistically biased and leads to pre-offer price rises and post-offer price declines. So in the presence of situational incentives investors face a higher need for inside information, but also higher uncertainty about the credibility of management disclosures. In these cases management credibility cues are useful for deciding reliance on FLPDs. A historical measure of management's forecasting accuracy would be hard to derive due to the more qualitative and therefore less verifiable nature of FLPDs. In these cases the quality of reported earnings in the audited financial statements may offer a useful proxy for management credibility, as it reflects management's reporting reputation and evidence suggests that it is aligned with disclosure quality (Francis et al. 2008). We therefore investigate whether

investors condition their reliance on FLPDs on earnings quality in the presence of managerial incentives.

3. Research design

3.1 Measuring forward-looking disclosures

3.1.1 FDSCORE

To calculate our FLPDs score we use the scoring method developed in Hussainey et al. (2003, 276–282). The authors automate the generation of disclosure scores for large samples of UK firms by using *Nudist*; text analysis software used to analyze interviews, speeches, newspaper articles, and text documents. We focus on annual report narratives, as they are more likely to contain voluntary FLPDs and on sections with at least one of the following headings: Financial Highlights, Summary Results, Chairman's Statement, Chief Executive Officer's Review, Operating and Financial Review, Financial Review, Financial Director's Report, Finance Review, Business Review, and Operating Review. All other sections of the annual report are excluded from our analysis. We focus on performance indicators as they improve the stock market's ability to anticipate future earnings changes (Hussainey et al. 2003, Schleicher et al. 2007).

We construct our disclosure index in three stages. In the first stage, we identify forward-looking statements in the narratives by electronically searching the sections for a list of thirty-five forward-looking keywords such as accelerate, anticipate, await, and coming (financial) year(s), etc. Panel A of Table 1 provides detailed lists of the keywords. We also include future year numbers in the list of forward-looking key words. In the second stage we identify performance related keywords. We trace these keywords in sell-side analyst reports to represent

the market's view about the firm's disclosure quality.[6] For each forward-looking statement in analysts' reports, we identify the key noun in the statement, e.g., profitability, EPS, return, margin (see Panel A of Table 1). In the third stage we count the number of sentences that include at least one forward-looking keyword and one performance keyword in the annual report narratives. Our FLPDs index, *FDSCORE*, is the number of intersections divided by the total number of sentences in the narrative sections and multiplied by 100. We introduce scaling to control for the general lengthiness of the narrative sections; this way we control by construction for factors associated with the firm's mere ability or willingness to produce lengthier reports (e.g. size) rather managerial discretion to open up about future operating performance. Using scaling, *FDSCORE* is bounded by 0 and 100. Our coding scheme is arguably an improvement on binary coding as it counts the frequency of FLPDs in the annual report narrative sections, not merely their existence.

3.1.2 What do we know about FDSCORE?

Hussainey et al. (2003) developed their scoring methodology to evaluate the voluntary disclosures in the annual report narratives of UK firms. This automated scoring methodology allows for sample coverage similar to AIMR-FAF US ratings. To evaluate their scoring methods, Hussainey et al. (2003) compare the classifications of the *Nudist* automated search to a manual inspection of the discussion sections of 50 randomly selected annual reports and find that *Nudist* identifies 86 percent of the cases correctly. The remaining 14 percent are misclassified with Type I and II errors of 12 and 2 percent, respectively. Most errors occur when *Nudist* misses

[6] Analyst reports are highly likely to include the topics that help the stock market to anticipate future earnings changes. This is due to financial analyst representing and influencing investor beliefs (Schipper 1991, Lang and Lundholm 1996) and to annual reports serving as a key input to drafting analyst reports. Relying on analysts' view, as representative of the market's view, about the firm's disclosure policy is also consistent with the use of AIMR-FAF ratings as a proxy for the firm disclosures.

forward-looking information, but any further additions to the forward-looking keywords increases the Type II error. On the firm level the Pearson and Rank correlations between the *Nudist* score and the index constructed by manual inspection are calculated at 0.96 and 0.95.

To further assess the nature of *FDSCORE*, we randomly select a sample of 140 forward-looking performance statements from UK annual reports across our sample period. Panel B of Table 1 presents some of these statements. Recurring themes in these statements is facts or judgments about expected returns from: i) new business segments and divisions; ii) expansion programs; iii) restructuring and investment programs; iv) mergers and acquisitions; v) development programs vi) investments in technology; vii) exploring growth opportunities; viii) new customer contracts; and ix) increased capacity and efficiency.[7] The statements contain predominately qualitative information about the future with no reference to a specific time horizon; we find that only 1 percent of the random sample statements are quantitative in nature. Our observations corroborate existing evidence on the dominance of qualitative FLPDs, identified either through an automated scoring methodology or manual inspection (Schleicher and Walker 2010, Beattie et al. 2004).

The frequency of FLPDs, unscaled, has been used in a number of studies. In terms of the relevance of FLPDs, Hussainey et al. (2003) verify that firms providing more FLPDs in their annual reports help the market to predict future earnings changes more accurately. They also show that it is the frequency of forward-looking *earnings* statements that contribute to price-leading-earnings rather than forward-looking statements about individual income statement

[7] As our analysis focuses on the frequency of FLPDs, i.e. how forthcoming are managers about the future, and not their content, we do not perform extensive content analysis on the forward-looking performance statements. To assess consistency with prior literature, we only draw some general observations about the content. In our randomly selected statements, consistent with the evidence of Bujaki et al. (1999), Clarkson et al. (1992), Clarkson et al. (1994), and Clatworthy and Jones (2003), good news appears to dominate bad news. Of the randomly selected sample statements, 95 percent contain good news about the future. Only a few of these statements contain a mixture of good and bad news. The bad news component refers to current or past events, leading to the good news component with a forward-looking perspective.

components (e.g. revenues or costs). Schleicher et al. (2007) and Hussainey and Walker (2009) add to this initial evidence showing that the effect of FLPDs on stock price anticipation of future earnings is more pronounced for loss-making and dividend-paying firms.

3.2 Model of forward-looking disclosures

We group factors that affect the frequency of FLPDs into four categories; disclosure policy, proprietary costs, information environment and situational incentives that exist at the time of the disclosure. This framework builds on existing literature on the drivers of voluntary disclosure taking into account the specific nature of forward-looking disclosure (Lang and Lundholm 1993, Healy et al. 1999, Mercer 2005, Baber et al. 2006, Lapointe-Antunes et al. 2006, Butler et al. 2007). The detailed form of our model is:

$$\begin{aligned} FDSCORE_{it} = {} & \beta_0 + \beta_1 FDSCORE_{it-1} + \beta_2 SIZE_{it} + \beta_2 \sigma SALES_{it} + \beta_3 BM_{it} + \beta_4 NANAL_{it} \\ & + \beta_5 DISPERSION_{it} + \beta_6 SEO_{it} + \beta_7 DEBTISSUES_{it} + \beta_8 DECLINE_{it} \\ & + \beta_9 MISS_{it} + \beta_{10} LOSS_{it} + \beta_{11} UNDERPERFORMANCE_{it} + \beta_{12} EQ_{it} \\ & + YEAR_{it} + INDUSTRY_t + e_{it}. \end{aligned} \quad (1)$$

The Appendix provides detailed definitions of all variables. Below we describe the model components.

Disclosure policy

Evidence suggests that firms' disclosures tend to persist across years (Bushee et al. 2003; Skinner 2003; Graham et al. 2005). Once managers decide to open up about future performance in the narrative sections of the annual report it is unlikely that they switch back to no disclosure. To account for the 'stickiness' in forward-looking disclosure decisions we include the lagged frequency of FLPDs, $FDSCORE_{t-1}$.

Proprietary costs

There is considerable evidence in the literature suggesting that FLPDs are value relevant. However, this type of disclosure might provide useful information to competitors and hence, might affect the firm's competitive position in product markets. Therefore proprietary costs may induce managers to be less open about future performance in the annual report narratives.[8] Our model includes firm size as a proxy for proprietary costs.[9] As *FDSCORE* controls by construction for the general lengthiness of annual reports, firm size is likely to capture proprietary considerations rather than the mere ability/willingness of larger firms to produce lengthier reports. To the extent larger firms face higher proprietary costs and forces from competition, we expect them to issues less FLPDs.

Information environment

Management's disclosure choices are inherently related to the firm's information environment. Early theoretical work by Verrecchia (1983) and Diamond and Verrecchia (1991) shows that voluntary disclosure mitigates information asymmetry and improves the firm's information environment. Empirical studies verify this theoretical proposition with evidence of a positive association between poor information environments and the frequency of voluntary disclosures (Imhoff 1978, Waymire 1985, Lang and Lundholm 1993, Tasker 1998). We first consider the volatility of the firm's operations and its growth opportunities as factors shaping the firm's information environment. Accordingly our model includes sales variability ($\sigma SALES$), and the

[8] According to the proprietary costs theory (Verrecchia, 1983; Dye, 1986; Darrough and Stoughton, 1990; Wagenhofer, 1990) the incentive to voluntarily disclosure information is a decreasing function of proprietary costs such as relevant preparation and competitive costs. Consistent with this theory, Jones (2007) finds that higher proprietary costs are associated with lower levels of R&D voluntary disclosure. Prencipe (2004) finds that proprietary costs also limit the incentive for companies to provide segment information to the market.

[9] We repeat the analysis using the industry concentration ratio as an alternative proxy for proprietary costs, similar to Lapointe-Antunes et al. (2006). We measure the industry concentration ratio using the sum of the sales of the four largest companies in the industry (in terms of sales) divided by total industry sales. We obtain qualitatively similar, yet somewhat weaker, results using this alternative measure. We therefore opt for size in the main specification, measured using the company's market capitalization, as it is seems to a more comprehensive measure of proprietary cost considerations.

book to market ratio (*BM*). Firms with volatile of operations have less predictable income streams. Such firms would issue more FLPDs to reduce uncertainty over their future profitability and mitigate information asymmetry. To the extent the book to market ratio is an inverse proxy for information asymmetry and growth opportunities, we expect firms with higher book to market ratios issuing less FLPDs.[10]

We also consider factors shaping the firms' external information environment. Managers would be more forthcoming about future performance in their published reports when the information demands of the investment community are rising (Lapointe-Antunes et al. 2006). We consider two properties of the information demand of the investment community. The first is the size of the demand, which we capture using the number of analysts following the company. The second is the market's uncertainly about the firm's future potential which we capture through the dispersion in the analyst earnings forecasts. Higher forecast dispersion would induce managers to provide more forward-looking disclosures to resolve market uncertainty by guiding the forecast consensus. Accordingly, our model includes the number of analysts following the firm (*NANAL*) and the dispersion of analyst earnings forecasts during the year (*DISPERSION*). Consistent with prior research (i.e. Lang and Lundholm, 1993), we expect that *NANAL* and *DISPERSION* to be positively associated with the frequency of FLPDs.

Situational incentives

These are incentives that managers have at the time of the disclosure to open up about future performance triggered by specific events or circumstances, e.g. the firm's activity in the capital markets (debt or equity offerings) or earnings news conveyed in the financial statements.

[10] Barclay and Smith (1995), McLaughlin et al. (1998), Barth and Kasznik (1999) and Huddart and Ke (2007) also use the book to market measure as a proxy for information asymmetry.

We first consider incentives arising from corporate financing transactions. Information asymmetry considerations are higher when firms raise capital (Healy and Palepu 2001), suggesting a higher need for voluntary disclosure during equity offerings. Consistent with this notion, empirical studies show that firms offering securities are more likely to issue earnings forecasts (e.g. Choi. 1973, Ruland et al, 1990, Healy et al. 1999) and have higher analyst ratings of disclosure (Lang and Lundholm, 1993). While this evidence suggests a positive association between voluntary disclosure and equity offerings, this might not extend to FLPDs disclosed in the narrative sections of the annual report. On periods of equity offerings companies might prefer to communicate forward-looking information directly with major investors (Healy and Palepu 1993, 1995) or through more timely channels of communication (e.g. IPO or SEO prospectuses earnings releases, conference calls). During these periods potential legal liability and reputation concerns might also deter FLPDs due to their high price sensitive nature. Consistent with this notion, Li (2009) finds that the threat of shareholder litigation gives managers incentives to partiality disclose private prospective information during initial public offerings. To control for the effect of equity offerings on FLPDs, our model includes an indicator variable of share capital increases by more than 5 percent during the year (*SEO*).

Turning to external financing, Jensen and Meckling (1976) argue that highly leveraged firms have high monitoring/agency costs. These firms can reduce these costs by providing voluntary disclosure in their annual report narratives to convey value relevant information that satisfy creditors' needs. Consistent with this prediction, Sengupta (1998) finds that greater disclosure reduces the cost of issuing debt. In this vein, managers may provide more FLPSs when issuing debt to reduce financing costs and the required risk premiums. This implies a positive association between issuing debt and the frequency of FLPDs. To account for the effect

of debt issues on FLPDs, our model includes an indicator variable of increases in the book value of debt by more than 5 percent during the year (*DEBTISSUES*).

Second we consider incentives arising from earnings news reported in the financial statements. Bagnoli and Watts (2007) examine voluntary disclosure as a response to managers having private information the market can use to better estimate the value implications of the content of the financial report. In their model the content of the financial reports affects both the possibility and frequency of voluntary disclosure. They show that if the financial report contains sufficiently bad news, the manager discloses more private information to mitigate investors' downward response to a negative earnings surprise. Consistent with this notion, Schleicher et al. (2007) find that loss firms provide more informative FLPDs in their annual report narratives. We use four measures of 'earnings news' in the financial statements. Prior literature establishes three important earnings benchmarks for managers; earnings for the prior period, analyst forecasts, and profits (Degeorge 1999, Brown 2001, Brown and Caylor 2005, Graham et al. 2005). To capture bad earnings news in the financial statements, we include an indicator of earnings declines (*DECLINE*), missing of the analyst forecasts (*MISS*) and losses (*LOSS*). If the firm's reported performance falls below expectations, managers are likely to issue FLPDs in the narratives to mitigate the markets' response. Bagnoli and Watts (2007) also suggest that the extent of firm's underperformance may also affect the probability of voluntary disclosure, because the benefits from mitigating bad news are greater the further the firm's performance deviates from market's expectations. Accordingly we include a measure of underperformance, capturing the industry average return on assets (ROA) exceeds the firm's ROA (*UNDERPERFORMANCE*).

If investors rely more on FLPDs of firms with high earnings quality, it is possible that earnings quality affects also directly the frequency of FLPDs, i.e. firms with higher earnings

quality disclose more FLPDs. This is in line with the empirical evidence of Lennox and Park (2006) who find that firms with higher earnings informativeness issue more frequently earnings forecasts, and Francis et al. (2008) who find that firms with higher earnings quality have higher disclosure scores. Our model therefore also includes earnings quality (*EQ*).

3.3 Investors' reliance on forward-looking disclosures

Prior research investigating the relevance of forward-looking disclosures focuses on the extent that these disclosures help investors 'bring the future forward', i.e. assist the stock market to anticipate earnings (Hussainey et al, 2003; Schleicher et al, 2007; Hussainey and Walker, 2009; Muslu et al, 2012). To investigate how investors' use of FLPDs varies with managers situational incentives, we start by examining the extent that FLPDs affect stock price informativeness about current and future earnings. We adopt the model of Collins et al. (1994) adding future earnings growth to return-earnings models as follows,

$$R_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 X_{i,t3} + \beta_3 R_{i,t3} + \beta_4 EP_{i,t-1} + \beta_5 AG_{i,t} + e_t \quad (2)$$

where X_t is the growth in earnings per share for year t and X_{t3} is the sum of earnings growth for years $t+1$ to $t+3$, R_{t3} is the aggregate stock return in year $t+1$ to $t+3$. Equation (2) models contemporaneous returns on current and future earnings shocks.[11] The specification includes contemporaneous and future returns, lagged earnings-to-price ratio and asset growth to account for the measurement error arising from using ex-post earnings growth to proxy for shocks in future earnings expectations.[12] EP_{t-1} is earnings in period $t-1$ over price at the start of period t,

[11] The framework of this model has its theoretical underpinning in the discounted cash flows valuation model, assuming that investors' revisions in dividend expectations are fully summarized by their revisions in future earnings expectations.

[12] Collins et al (1994) include errors-in-variables proxies such as lagged earnings yield, current asset growth, and future period returns to mitigate the measurement error problems. They argue that the inclusion of such proxies will affect the goodness of fit of the model, only if the reason for the poor performance of the simple return-earnings regression is prices leading earnings. Panel C, Table 2 shows that the correlations between these variables are

while AG_t is the growth rate of total book value of assets in period t. Similar to Tucker and Zarowin (2006) we refer to the coefficients on contemporaneous earnings growth as the earnings response coefficient (ERC) and that on future earnings growth as the future ERC, FERC. Both are predicted to be positive. As we wish to assess the impact of FLPDs on investors' assessments of contemporaneous earnings (ERC) and their anticipation of future earnings (FERC), we augment the model allowing the ERC and FERC to vary with the frequency of FLPDs as follows:

$$R_{i,t} = \beta_0 + \beta_1 \mathrm{X}_{i,t} + \beta_2 \mathrm{X}_{i,t3} + \beta_3 R_{i,t3} + \beta_4 EP_{i,t-1} + \beta_5 AG_{i,t} + \beta_6 FDSCORE_{i,t} + \beta_7 FDSCORE_{i,t} \times \mathrm{X}_{i,t} + \beta_{14} FDSCORE_{i,t} \times \mathrm{X}_{i,t3} + u_{i,t}. \quad (3)$$

In this specification β_1 and β_2 capture the ERC and FERC irrespective of the frequency of FLPDs. If investors use FLPDs to re-assess information in reported earnings, we expect FLPDs to increase the ERC. If investors rely on FLPDs to improve anticipation of future earnings, we expect FLPDs to increase FERC. To investigate how investors' use of FLPDs varies with situational incentives we repeat equation (3) for subset of firms-year observations where managers have incentives to be more open about future performance in the annual reports.

To investigate how investor reliance on FLPDs varies with earnings quality we repeat equation (3) distinguishing between firms with high and low earnings quality. We measure earnings quality using the Dechow and Dichev's (2002) model as modified by McNichols (2002) and extended to control for operating performance (Kothari et al. 2005) and the role of accruals in asymmetric timely loss recognition (Ball and Shivakumar 2006). The standard deviation of the model residuals, *EQ*, provides an inverse measure of earnings quality, i.e. larger *EQ* implies

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relatively small, with the largest correlation being between future earnings and future returns (35%). Such a correlation is anticipated (see Lev 1989).

lower earnings quality. We therefore classify firms with high (low) earnings quality if *EQ* is below (above) the industry and year median.

4. Sample

Our sample of companies comprises the FTSE All Share non-financial UK firms. As Beretta and Bozzolan (2008), we exclude financial firms because of their regulation of disclosure of forward-looking information. A requirement for using *Nudist* is the availability of annual reports in electronic form and in text format. We collect electronic versions of the UK annual reports for the years 1996 to 2007. We start collecting annual reports from 1996 because large cross-sections of electronic UK annual reports are available on Dialog database from year 1996. Dialog stores reports in standard text format, deleting images and graphs, and retaining all text and numbers. The database was discontinued by Thomson Financial in mid-2004 after comprehensive coverage for year 2002. To collect electronic versions of annual reports for the period 2003-2007, we use the Northcote Database (http://www.northcote.co.uk). Northcote offers annual reports in a PDF format. We convert these reports to standard text format, deleting images and graphs, and retaining all text and numbers. We end our analysis in the year 2007 because the UK Companies Act 2006 standardized the contents of the Business Review and this report overlaps in content with the OFR.[13] The total number of annual reports of all UK listed non-financial companies collected over the period 1996–2007 is 10,095. Retaining observations with available accounting and analyst forecast data from Datastream and I/B/E/S to estimate our model of forward-looking disclosures reduces the sample to reduces the sample to 5,459

[13] UK quoted companies should follow the enhanced business review reporting requirements in section 417 of the Companies Act 2006 for years beginning on or after 1 October 2007. Section 417 of the Companies Act 2006 sets out the required contents of the business review that companies need to include as part of their directors' report for financial years beginning on or after 1 October 2007. The content of the business review is quite similar to the content of an OFR statement. For more details see http://www.frc.org.uk/asb/technical/operating.cfm.

observations for 1,273 UK listed non-financial firms. For price-leading earnings tests availability of three years ahead earnings and returns data from Datastream reduces the number of usable observations to 4,321. To mitigate the effect of outliers in our tests, we winsorize the top and bottom 0.5 percent of all variables used in our tests.

5. Empirical Results

5.1 Descriptive statistics

Panel A of Table 2 reports the statistics for the variables. The mean *FDSCORE* is 2.82, which indicates that about three out of every 100 sentences in the annual report are FLPDs. This translates into approximately seven FLPDs on average per annual report based upon a mean count of 235 sentences in annual report narratives in our sample. The maximum number of FLPDs in the narratives is 31 (13 per 100 sentences), while the minimum is zero. Our sample comprises mainly larger firms evident in the high average market capitalization and an average of seven analysts following a firm. This sample attribute is similar to prior studies investigating the value relevance of FLPDs (Hussainey et al., 2003, Schleicher et al, 2007, Hussainey and Walker, 2009). In our sample the frequency of equity offerings is 17%, while that of debt issues is 45%. Consistent with prior research firms missing earnings targets are a minority ranging from 38% of firms reporting earnings declines, to 40% missing analyst forecasts and only 12% reporting losses during the sample period. Our sample firms on average over-perform their industry peers as mean *UNDERPERFORMANCE* is negative (−0.080). The mean annual returns for year t (R_t) are 9.2 percent. The median annual returns are 9% and their standard deviation is 0.471. Mean change in EPS for year t scaled by lagged price (X_t) is 0.010 with a standard deviation of 0.188, while the average aggregate change in EPS three years ahead scaled by lagged price is 0.002 with a standard deviation of 0.296.

Panel B of Table 2 reports the frequency of FLPDs across situational incentives. Managers of firms that issue equity (*SEO*=1) issue less FLPDs on average in their annual reports. Firms issuing debt (*DEBTISSUES*=1) however issue more FLPDs. The same holds for firms conveying bad news about their performance in the income statement, i.e. earnings that fall short of last year earnings (*DECLINE*=1), of the analyst forecast outstanding at the earnings announcement date (*MISS*=1) and the average industry performance (*UNDERPERORM*=1). The differences in the frequency of FLPDs for these firms compared to the remaining firms in the sample are statistically significant. The panel also reports the frequency of FLPDs for firms facing multiple situational incentives among debt issues, earnings declines, missing analyst forecasts and underperformance relative to industry peers. Firms facing all four situational incentives seem to be the most forward-looking issuing on average 9 FLPDs (3.563 per 100 sentences x 235 sentences per report) in their annual report, compared to 6 (2.529 per 100 sentences x 235 sentences per report) FLPDs issued by firms not facing any of these incentives.

Panel C of Table 2 reports the Pearson and Spearman correlations (above and below the diagonal) between key variables. As expected, there is a significant positive association between firm size and analyst following (0.82), which justifies the univariate negative association between analyst following and FLPDs. Among situational incentives there is a positive association between corporate financing events, i.e. equity offerings and debt issues, and a strong positive association between the measures of bad news in the financial statements, i.e. earnings declines, missing of analyst forecasts, losses and underperformance relative to industry peers. The latter associations suggest that managers may face multiple situational incentives at the time of the disclosure. We take this into account when examining the relevance of FLPSs in the presence of situational incentives.

5.2 What drives forward-looking performance disclosures?

Table 3 reports regression results for the factors influencing the frequency of FLPDs (equation 1). The first column reports the results of equation (1) excluding $FDSCORE_{t-1}$, therefore highlighting the cross-sectional effects. *FDSCORE* is negatively associated to *SIZE* and *SEO* and positively associated to *BM*, *DEBTISSUES*, *DECLINE*, *MISS* and *UNDERPERFORMANCE*. With regards to size, Hussainey and Al-Najjar (2011) find a positive association with FLPDs using total assets as a proxy for size. Their finding is consistent with their hypothesis that larger firms have enough resources to provide lengthy narrative sections in their annual reports. We control for this effect when constructing our FLPDs index as we scale FLPDs with total number of sentences in the narrative sections. Therefore the negative association between *FDSCORE* and *SIZE* in our specification is likely to reflect proprietary cost considerations. With respect to equity offerings, the UK Financial Services Authority (FSA) advises listed companies to be wary of making unintentional profit projections ahead of equity offerings which could discourage managers from being overly open about future performance in these periods.[14] In summary, the results of the first column suggest that across the section of UK firms FLPDs decrease with proprietary costs and equity offerings, and increase with the book to market ratio, debt issues, reporting of earnings declines, missing of analyst forecasts and underperformance relative to their industry peers. These factors explain approximately 18% of the variation in the frequency of FLPDs.

In the next column we include $FDSCORE_{t-1}$ and as expected FLPDs persist over time. The explanatory power of the specification rises substantially to 26%. As we control for the

[14] With respect to equity offerings we also test the variation in *FDSCORE* in the year prior to equity offerings, i.e. redefining *SEO* as an indicator of increases in equity in the following period. In this additional test the effect of equity offerings is insignificant. For US firms, Lang and Lundholm (2000) also find no change in the frequency of forward-looking statements prior to equity offerings and attribute this to the SEC explicitly discouraging forecasts prior to registering the offering.

firm's disclosure policy, these results highlight the factors driving changes in FLPDs across time. In this specification *NANAL* is positive and significant, consistent with analyst following triggering additional disclosures of FLPDs.[15] *BM* is positively associated to *FDSCORE*. This might be due to the endogenous nature of *BM* as more FLPDs reduce information asymmetry and the book to market divergence. To investigate this issue further, we repeat the analysis adding BM_{t-1} in our model. The next column reports the regression results. BM_{t-1} is negatively associated with *FDSORE* while *BM* retains the positive association. These results suggest a feedback loop between FLPDs and the book-to-market divergence; higher divergence induces managers to open up about future performance in the narrative sections of their annual reports, and this openness subsequently reduces information asymmetry, consistent with our claims.[16]

Taken together, the results of Table 3 show that FLPDs are part of a 'sticky' disclosure policy. Controlling for the persistence of FLPDs across years, we find that proprietary costs and equity offerings in the current period restrain managers from issuing further statements. Managers provide more FLPDs to reduce the book-to-market divergence and respond to higher information demands of the investment community –i.e. high analyst following. In terms of situational incentives, FLPDs increase when firms issue debt or convey bad news in their financial statements, in the form of earnings declines and falling short of analyst forecasts and average industry performance. We next investigate how the market responds to FLPDS in the presence of these managerial incentives.

[15] Causality may be an issue with analyst following, as it may be that firms issuing more FLPDs have lower information acquisition costs and therefore attract more financial analysts. To mitigate this concern, we repeat the analysis adding lagged *NANAL* and the effect remains positive and significant.

[16] The remaining firm-specific characteristics, e.g. σ*SALES*, *DISPERSION*, *LOSS, EQ* do not significantly affect forward-looking performance disclosures in any of the specifications. The effect of σ*SALES* and *EQ* are subsumed by industry dummies, as in a specification excluding these dummies both variables are significant and with the predicted signs. As σ*SALES* and *EQ* measure earnings volatility and earnings quality using a four-year window, they are more likely to explain cross-sectional variation in *FDSCORE* that is largely correlated with industry variation. The effect of *LOSS* is subsumed by *DECLINE* and *MISS*, as losses are highly correlated with declines in profitability and missing of analyst forecasts.

5.2 The perceived credibility of forward-looking disclosure

Table 4 presents results on the extent that FLPDs affect stock price informativeness about current and future earnings (equation 3). The coefficient on X_t is positive and highly significant $(0.543, t = 4.41)$, yielding a strong earnings response coefficient (*ERC*). The coefficient on X_{t3} is however insignificant, suggesting that prices do not lead earnings by three periods. Additional untabulated analysis on disaggregated future earnings changes shows that this is due to prices leading earnings one year ahead, but to a much lesser extent for two and three periods ahead (similar to evidence by Hussainey et al. 2003). The insignificance of the effect of X_{t3} may be also due to share price anticipation of future earnings varying with the frequency of FLPDs as we see next. The next column presents the results of equation (3). The coefficient on $FDSCORE \times X_{t3}$ is positive and marginally significant $(0.024, t = 1.65)$, consistent with FLPDs increasing the FERC, i.e. the share price anticipation of future earnings. To shed further light on the interpretation of this result, we test a specification without interaction terms distinguishing between firms with high and low *FDSCORE* (splitting using the sample median). The coefficient on X_{t3} is positive and significant $(0.155, t = 2.00)$, only when *FDSCORE* is above the sample median. When *FDSCORE* is below the sample median, X_{t3} is insignificant. So it is only higher frequencies of FLPDs in annual report narratives that enable stock prices to impound more information about future earnings. Table 4 shows how investors' use of FLPDs varies for firms that issue debt or convey bad news in their financial statements in the form of earnings declines, missing analyst forecasts, or underperforming relative to industry peers. FLPDs appear to marginally affect share price anticipation of future earnings when firms report declines in profitability (*DECLINE*=1, $0.030, t = 1.89$). In the presence of all other situational incentives $FDSCORE \times X_{t3}$ is insignificant (*t*-statistics range from 1.16 to 1.59). The results suggest some

sort of skepticism towards FLPDs when disclosed by managers facing situational incentives at the time of the disclosure. Investor skepticism seems to evolve also around contemporaneously reported earnings as X_t is also insignificant for firms facing situational incentives. We next investigate whether in these cases investors base their reliance on earnings quality.

Table 5 reports the regression results of equation (3) distinguishing between firms with high and low earnings quality. Given that *EQ* is an inverse measure of earnings quality, we classify firms with high (low) earnings quality if *EQ* is below (above) the industry and year median. For completeness, the first two columns show the unconditional effect of earnings quality on the relevance of FLPDs on the entire sample. $FDSCORE \times X_t$ and $FDSCORE \times X_{t3}$ are positive and significant only for firms with higher earnings quality (*t*-statistics 2.32 and 1.77). In the presence of situational incentives, and particularly when firms issue debt (*DEBTISSUES*=1), report earnings declines (*DECLINE*=1), or earnings that fall short of the analyst forecasts (*MISS*=1) or average industry performance (*UNDERPERFORM*=1) $FDSCORE \times X_{t3}$ is positive and significant only for firms with higher earnings quality (*t*-statistics range from 1.65 to 3.14). In most of these cases, and particularly within firms that miss analyst forecasts, $FDSCORE \times X_t$ is also positive and significant (*t*-statistics range from 1.80 to 3.34), consistent with FLPDs increasing the informativeness of current year earnings for these firms. These results suggest that investors use FLPDs to re-assess information in *contemporaneous* earnings and anticipate *future* earnings, only when reported earnings quality is high. In the last column we repeat the analysis for firms facing at least two situational incentives and obtain stronger results. This suggests that investors are particularly cautious when firms face multiple situational incentives, conditioning their reliance on earnings quality. At the same time

it suggests a credibility benefit for narrative disclosures when managers have an established reputation for high quality earnings in their financial statements.

5.3 Additional analyses

5.3.1 Earnings quality as a gauge of management credibility

We ran the analysis of Table 5 through various sensitivity tests. For brevity we report in Table 6 the results for firms facing at least two situational incentives, but we obtain similar inferences for firms facing individual situational incentives. In our first test we repeat the analysis using earnings variability as an alternative earnings quality measure. Earnings variability has been shown to work as an instrument for various earnings quality measures, such as earnings smoothness, earnings predictability, and poor matching of revenue and expenses (Francis et al. 2004, Dichev and Tang 2009), that are closely related to management credibility. The first two columns of Table 6 report the regression results. $FDSCORE \times X_t$ and $FDSCORE \times X_{t3}$ are positive and significant only for firms with low earnings volatility (*t*-statistics 2.39, 1.89).

Dechow and Dichev (2002) and Francis et al. (2004, 2005) show that the Dechow and Dichev (2002) earnings quality measure, that we use for our main test, is a function of both business fundamentals and managerial intent. To the extent earnings quality is driven by the company's business model, it is not likely to serve as a gauge for management credibility and therefore not affect investors' reliance on FLPDs. To address this issue, we regress our earnings quality measure on the seven variables proxying for business fundamentals as identified by Dechow and Dichev (2002) and Francis et al. (2004, 2005), i.e. size, cash flow volatility, sales volatility, operating cash cycle, cumulative losses, intangible assets intensity and capital assets intensity. As in Francis et al. (2005), we obtain the regression residuals as a proxy for

discretionary earnings quality, i.e. the part of earnings quality that is more likely to reflect managerial intent. The next two columns of Table 6 report the regression results. $FDSCORE \times X_t$ and $FDSCORE \times X_{t3}$ remaining positive and significant only for firms with high discretionary earnings quality (*t*-statistics 2.94, 2.19), consistent with this part of earnings quality being the defining factor investors' reliance on FLPDs.

Among factors relating to the firm's information environment, we focus on earnings quality as it is directly affected by managers, i.e. the 'messenger' of FLPDs. As UK firms do not provide information about their future trading through earnings forecasts releases, forecasting reputation cannot be used to assess whether FLPDs are credible. It is, however, possible that investors evaluate other aspects of the firm's information environment in deciding their reliance on FLPSs. One such aspect might be the assurance provided by financial intermediaries such as financial analysts. Mercer (2004) argues that financial analysts might serve as are a source of external assurance for management disclosures. Evidence, largely anecdotal, suggests that financial analysts do indeed affect the weigh investors place on management disclosures. To test whether analyst coverage affects investor reaction to management disclosures, we repeat our analysis distinguishing between firms with low and high analyst coverage. We split the sample based on the sample median of five analysts. The next two columns of Table 6 report the regression results. $FDSCORE \times X_t$ and $FDSCORE \times X_{t3}$ are not significant in either column consistent with analyst coverage not affecting investors reliance on FLPDs in the presence of situational incentives.

Another consideration relating to the firm's information environment is the role of the overall level of voluntary disclosure when considering the relevance of FLPDs. To the extent there is an omitted aspect of the firm disclosures that is also used to 'bring the future forward' as

FLPDs, if positively correlated with FLPDs it could lead to erroneous inferences. There is a large body of literature that argues and shows that FLPDs increase the amount of future earnings news reflected in current stock returns (Hussainey et al. 2003, Schleicher et al. 2007, Hussainey and Walker 2009, Muslu et al. 2009). This effect is conceptually grounded on the nature of FLPDs, i.e. their forward-looking perspective and explicit reference to profits. While annual report narratives contain other types of voluntary disclosure, FLPDs are those expected to be behind the price leading earnings association for UK firms. Hussainey et al. (2003) verify this empirically with evidence that only FLPDs, and not other types of disclosures in the annual report, help investors anticipate future earnings. So the concern relates mainly to the extent UK firms use another channel to communicate information other than annual report narratives and that other channel is correlated with FLPDs. Prior evidence suggests that this is unlikely to be the case as in the UK firms typically communicate information about future profits through annual report narratives (Schleicher and Walker 2010, Brennan 1999). To mitigate this concern further, we test how our results vary with proxies associated with the firm disclosures. As there is no single score rating UK's firm overall voluntary disclosure, we use a market-based measure associated with firm disclosures, analyst forecasts dispersion (*DISPERSION*). Dispersion in analyst forecasts reflects the overall level of uncertainty within the investment community and has been found to be negatively associated with firm disclosure proxies (Healy et al. 2001). It therefore offers an inverse proxy for the overall disclosure level that is well suited for our purposes as it is also not based on stock returns.[17] To test whether FLPDs have an incremental effect on the price leading earnings association we first repeat our tests adding *DISPERSION* as an additional control. The next two columns of Table 6 report the results. Both $FDSCORE \times X_t$

[17] Bid-ask spreads have been also found to be negatively associated with firm disclosures (Healy et al. 2001), offering an alternative inverse proxy for disclosure quality. However as they are inherently associated with stock returns we do not use them in our additional tests so that the results are not hardwired.

and $FDSCORE \times X_{t3}$ remain positive and significant for the firms with high earnings quality (*t*-statistics 1.88, 2.70), consistent with analyst forecast dispersion not subsuming the main effect of FLPDs. As earnings quality is also positively correlated with firm disclosures, and therefore analyst forecast dispersion, we next test whether *DISPERSION* can equally explain the differential weights on FLPDs. We expect analyst forecast dispersion to be a noisier proxy of management credibility than earnings quality as it affected by the efficiency and incentives of information intermediaries. In the final two columns of Table 6 we repeat the analysis distinguishing between firms with low and high analyst forecast dispersion (*DISPERSION*). $FDSCORE \times X_t$ and $FDSCORE \times X_{t3}$ are not significant in either column, consistent with analyst forecast dispersion not affecting investors reliance on FLPDs.

In summary, Table 6 shows that our core finding is sustained when considering simpler earnings properties such as earnings volatility and filtering out the variation of earnings quality that is related to business fundamentals. Other aspects of the firm's information environment that are arguably less informative about the credibility of management disclosures compared to earnings quality, such as financial analyst coverage or the analyst forecast dispersion, do not appear to affect investors reliance on FLPDs. Overall, these results reaffirm our conclusion that investors condition reliance on FLPDs on earnings quality in the presence of situational incentives, lending further credence on the use of earnings quality as a gauge of management credibility.

5.3.2 Forecasting versus reporting reputation

While it is hard to monitor the accuracy of FLPDs due to their qualitative nature, over time investors could build an estimate of the extent that FLPDs map into future operating performance. If an evaluation of the firm's *forecasting reputation* is feasible in the long-term, investors'

confidence in management disclosures shall be rising over time. To test this assertion, we examine whether investor reliance on FLPDs increases over time for a balanced sample of firms with at least five years of being listed and therefore a sufficient record of annual reports. To capture inter-temporal variation in the relevance of FLPDs we introduce a time trend, *TIME*, and interact it with both $FDSCORE \times X_t$ and $FDSCORE \times X_{t3}$. To the extent investor reliance on FLPDs rises with the track record of annual report narratives, we expect the interaction term to be positive. Table 7 reports the regression results for the balanced sample. As expected, $FDSCORE \times X_{t3} \times TIME$ is positive and significant, suggesting that reliance on FLPDs to anticipate future earnings is increasing over time.

To the extent management forecasting and reporting reputation are alternative cues of management credibility, relying on a track record of annual narratives to evaluate management's forecasting reputation will be more pronounced within firms with low quality of reported earnings. To test this assertion, we repeat the analysis distinguishing between firms with high and low earnings quality. The next two columns of Table 7 report the regression results. $FDSCORE \times X_{t3} \times TIME$ is indeed positive and significant only for firms with low earnings quality.[18] So for firms facing issues with financial reporting quality, investors rely on FLPDs to anticipate future earnings only as the record of the annual report narratives increases enabling assessments management forecasting reputation. We view these results as reinforcing our core finding that earnings quality enhances reliance on FLPDs, shedding light on the compensating effect of time as means for building an estimate of management forecasting reputation.

[18] We note that *FDSCORE* x X_t x *TIME* is negative for firms with high earnings quality, suggesting that investor reliance on FLPDs to reassess contemporaneously reported earnings declines over time for these firms. This might reflect the declining scope for using FLPDs to explain contemporaneous performance for firms whose reported earnings are already of high quality.

6. Conclusion

In this paper we investigate the perceived credibility of forward-looking performance disclosure that managers provide in their annual reports. We find that other than the firm's disclosure policy and information environment, the frequency of this disclosure depends on managerial incentives at the time of the disclosure. Managers seem to be more forward about future performance in their annual reports during years where the company issues debt or reports bad earnings news in the financial statements. In the presence of these managerial incentives, investors do not seem to rely on FLPDs unconditionally; they use forward-looking disclosure to appraise both current and future performance only when reported earnings in the audited financial statements are of high quality.

Our results have important implications for managers and policy makers. For managers, they provide insights into the strategies they might follow to increase the extent to which stock prices impound their private information disclosed in the narratives. Developing a reputation for high quality of earnings in the audited financial statements appears to make forward-looking disclosure more credible to investors. For policy makers who consider broadening the scope for disclosures of forward-looking information in annual report narratives, our evidence suggests that investors mitigate the risk of resource misallocation by conditioning their reliance on this information on their assessments of the firm's earnings quality. A further important insight from our findings is that the drivers and usefulness of voluntary disclosure, especially of 'soft' unverifiable information, cannot be examined in isolation from the contents and properties of mandatory reporting. There is a meaningful interaction between the front end of the financial reports and the financial statement that could enhance our understanding of managers' disclosure choices and offer insights to regulators on how to improve corporate reporting.

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Appendix
Definition of variables (in alphabetical order)

Variable	Definition
AG	The growth rate of total book value of assets in period *t*.
BM	Book (DS307) to market (DSHMV) ratio.
CFO	Operating cash flows (DS1015) scaled by lagged total assets.
DebtIssues	Equals one if total debt (DS1301) increases by more than 5 percent during the year, zero otherwise.
DECLINE	Equals one if annual change in I/B/E/S actual EPS is negative, zero otherwise.
DISPERSION	Standard deviation of analyst forecasts during the accounting period scaled by the absolute value of actual earnings.
EP	I/B/E/S reported actual earnings per share for year *t−1* divided over beginning of year share price.
EQ	The standard deviation of a firms' abnormal working capital accruals calculated over years *t−4* through *t*. Abnormal accruals are estimated using the modified Jones (1991) model extended with return on assets (Kothari et al. 2005), and negative changes in cash flows to account for the role of accruals in timely loss recognition (Ball and Shivakumar 2006).
FDSCORE	The number of forward-looking performance statements included in the annual report narratives divided by the total number of sentences in the annual report narrative sections and multiplied by 100.
$I_{CFO_{it}<0}$	Equals one when CFO_{it} is negative, zero otherwise.
LOSS	Equals one if in I/B/E/S actual EPS is negative in the current accounting period, 0 otherwise.
MISS	Equals one if the earnings surprise (*SURP*) is negative, zero otherwise.
NANAL	Number of analysts following the firm over the accounting period (source: I/B/E/S).
UNDERPERFORMANCE	Average industry ROA minus firm-specific ROA. ROA is earnings before interest, tax, depreciation, and amortization (DS1502) over total assets (DS392).
UNDERPERFORM	Equals one if *UNDERPERFORMANCE* is positive (i.e. the firm underperforms compared its industry peers), 0 otherwise.
R_t	Buy-and-hold returns from eight months before end of financial year *t* to four months after the end of financial year *t*.
R_{t3}	Buy-and-hold returns from eight months before the financial year-end to four months after the financial year-end for years *t+1* to *t+3*.
SEO	Equals one if the share capital (DS301) increases by more than 5 percent during the year, zero otherwise.
SIZE	Log of market value of equity (DSHMV).
SURP	Earnings surprise calculated as the difference between I/B/E/S actual EPS and the forecast outstanding at the earnings announcement date for year *t*.
WCA	Working capital accruals measured as change in total current assets (DS376) net of change in cash (DS375), minus change in current liabilities (DS389) net of change in the current portion of long-term debt (DS309).
X_t	The annual change in I/B/E/S actual EPS from year *t* to *t+1* scaled by the stock price at the beginning of the year *t*.
X_{t3}	The sum of annual change in I/B/E/S actual EPS for years *t+1* to *t+3* scaled by the stock price at the beginning of the year *t*.
ΔCFO	Annual change in *CFO*.
ΔCR	Change in revenue (DS104) minus change in accounts receivable (DS287).
σSALES	The standard deviation of total sales (DS104) over the accounting periods *t-t−2*.

DS = Datastream code

Table 1: Forward-looking performance disclosure
Panel A: Stages for constructing index of forward-looking performance disclosure *FDSCORE*

Stage 1: Identifying forward-looking keywords

*A*ccelerate	Estimate	Next	Scope for, Scope to
Anticipate	Eventual	Novel	Shall
Await	Expect	Optimistic	Shortly
Coming (financial) years	Forecast	Outlook	Should
Coming months	Forthcoming	Planned, Planning	Soon
Confidence, Confident)	Hope	Predict	Will
Convince	Intend, Intention	Prospect	Well placed, Well positioned
Current (financial) year	Likely, Unlikely	Remain	Year(s) ahead
Envisage	Look forward, Look ahead	Renew	

Stage 2: Identifying performance related keywords from analyst reports

Benefit	Contribution	Loss	Profitability
Break even	Earnings	Margin	Return
Budget	EPS	Profit	Trading

Stage 3: Count the intersections between forward-looking and performance related keywords, scaling the intersections by the total number of sentences in the annual report and multiply by 100.

Panel B: Sample of forward-looking performance statements

Statement	Source (Year of annual report)
'Management is confident that, with the launch of its new division "The Film Factory at VTR", the company is now well placed to capture a large stake of these special effects commercials and feature film market which will ensure the company's continuing growth in profitability.'	VTR PLC (1996)
'Of the three divisions, RCO Healthcare is attracting the highest level of investment and offers considerable prospects for good returns in the medium and long term.'	RCO Holdings PLC (1996)
'We intend to increase profits both by a controlled programme of organic expansion and by improving the performance of the existing units.'	Vardon PLC (1996)
'We believe that the restructuring and investment programme will restore profitability to the group and strengthen our position in the market place.'	Stoddard Sekers International PLC (1996)
'Its merger into Montgomery will provide an opportunity for profits recovery in future years.'	Macfarlane Group (Clansman) PLC (1996)
'We will continue to invest to improve the business and to translate the many opportunities available to us into good returns for our shareholders.'	FirstBus PLC (1997)
'The Directors believe that the Company is now well positioned to support further growth which should result in a consequent improvement in operating margin.'	Stoves Group PLC (1997)
'Going forward, Cantab will retain key commercial rights to provide both flexibility and greater financial return.'	Cantab Pharmaceuticals PLC (1997)
'Importantly, we expect to produce solid profits and cash flow above the norms of our competition, whilst maintaining our capability to take advantage of improving markets.'	Abacus Polar PLC (1997)
'I am confident that our carefully targeted expansion programmes across all our businesses will result in strong growth in earnings for the future.'	Stagecoach Holdings PLC (1997)
'As with our previous acquisitions we expect them to benefit from being part of McBride and to be earnings enhancing during the forthcoming year.'	McBride PLC (1998)

'Superscape will invest these funds to continue to grow the company and move towards profitability.'	Superscape VR PLC (1998)
'We are looking forward to the years ahead and are confident of generating major rights assets and of producing significant growth in earnings.'	Bloomsbury Publishing PLC (1998)
'The development programme will concentrate primarily on large capacity key sites in high profile locations which have the potential individually to generate profits well in excess of the average bar or nightclub.'	Chorion PLC (1998)
'Our focus on sales will ensure that the Group produces revenue growth and a return to profit and thus progressively build value for our shareholders.'	IES Group PLC (1999)
'To match this investment in technology, we have also increased our sales and marketing activities and expect to see the benefits coming through in the near future.'	Dee Valley Group PLC (1999)
'We believe that such opportunities combined with our 40eorganized UK operations will lead to improved levels of profitability.'	Liberfabrica PLC (1999)
'A consistent focus on service quality, at sustainable margins, will contribute to long term profitable growth in this business.'	Go Ahead Group PLC (1999)
'Future prospects look encouraging and we intend to take advantage of every opportunity to increase Group profits and earnings, and enhance value to shareholders.'	Columbus Group PLC (1999)
'However, the situation is now improving significantly and the company is moving towards profit and regaining the confidence of its retail and contract customers.'	Mcbride PLC (2000)
'The winning of new contracts and the maintenance of existing relationships will ensure that SSS continues its positive contribution to the Group.'	IES Group PLC (2000)
'It is our intention to continue to expand the sales of our testing services, which will bring the benefits of greater flexibility and additional income.'	Dee Valley Group PLC (2000)
'Thus the Group is well placed for further acquisitions and profit growth in the future.'	Beale PLC (2000)
'Demand for our products remains buoyant and I am confident that the addition of further CD and DVD case capacity in the coming months should provide the opportunity to further increase turnover and profitability.'	Coral Products PLC (2000)
'We shall be actively exploiting new growth opportunities to enhance the Group's profitability.'	Stoves Group PLC (2000)
'The business is building but will inevitably take time to achieve an acceptable return.'	Burnden Leisure PLC (2001)
'We expect there to be benefits from increased capacity and improved efficiency.'	W T Foods PLC (2001)
'The Board is confident that the enlarged estate will continue to produce substantial returns in the years ahead'.	Fuller Smith & Turner PLC (2001)
'We are confident that our significant investment in filtration and our strategic strengths will produce a good and increasing return for shareholders, and a rewarding environment for our employees and customers.'	Mcleod Russel Holdings PLC (2001)
'Over the short term, profit growth will be constrained by the cost of investment.'	Boots Company PLC – (2002)
'This was achieved despite significant revenue investment in areas such as the Argos store card and new products at Experian, which will underpin future profits growth.'	Great Universal Stores PLC (2002)
'We shall continue our ongoing strategy of using this surplus to buy back shares, in order to enhance long term growth in earnings per share.'	Next PLC (2002)

Table 2

Panel A: Descriptive statistics of key variables

Variable	N	Mean	Median	Std. Dev	Min	Max
FDSCORE	5,459	2.818	2.326	2.180	0.000	12.903
SIZE	5,459	11.912	11.773	1.829	7.840	17.156
σSALES	5,459	0.257	0.147	0.340	0.002	2.651
BM	5,459	0.624	0.475	0.583	−0.424	3.792
NANAL	5,459	7.147	5.000	6.490	1.000	47.000
DISPERSION	5,459	3.008	1.504	6.804	0.000	199.916
SEO	5,459	0.170	0.000	0.376	0.000	1.000
DEBTISSUES	5,459	0.452	0.000	0.498	0.000	1.000
DECLINE	5,459	0.378	0.000	0.485	0.000	1.000
MISS	5,459	0.396	0.000	0.489	0.000	1.000
LOSS	5,459	0.117	0.000	0.321	0.000	1.000
UNDERPERFORMANCE	5,459	−0.080	−0.036	0.438	−4.051	1.363
EQ	5,459	0.063	0.044	0.067	0.000	0.478
R_t	4,321	0.092	0.090	0.473	−1.497	2.125
X_t	4,321	0.010	0.006	0.188	−0.917	1.434
X_{t3}	4,321	0.002	0.001	0.296	−2.074	1.732
R_{t3}	4,321	0.148	0.155	0.694	−2.224	2.696
AG	4,321	0.032	0.061	0.168	−1.424	0.408
EPt−1	4,321	0.200	0.075	0.569	−0.608	5.452

Panel B: Forward-looking disclosures (*FDSCORE*) across situational incentives

Variables	N	Mean	Median	Diff. (mean)	t-stat/(pvalue)
Equity offerings					
SEO=1	927	2.560	2.095	(0.311)	−4.49(<0.001)
SEO=0	4,532	2.871	2.376		
Debt Issues					
DebtIssues=1	2,465	2.881	2.381	0.115	2.76(0.006)
DebtIssues=0	2,994	2.766	2.290		
Earnings declines					
DECLINE=1	2,066	3.065	2.500	0.398	6.60(<0.001)
DECLINE=0	3,393	2.667	2.200		
Missing analyst forecasts					
MISS=1	2,163	2.904	2.392	0.143	2.20(0.028)
MISS=0	3,296	2.761	2.273		
Losses					
LOSS>1	638	2.749	2.094	(0.078)	−3.30(0.001)
LOSS<0	4,821	2.827	2.362		
Underperformance					
UNDERPERFORM=1	1,787	3.040	2.478	0.330	5.14(<0.001)
UNDERPERFORM=0	3,672	2.710	2.246		
N	5,459				

Number of situational incentives among debt issues, earnings declines, missing analyst forecasts and underperformance compared to industry peers*(DebtIssues=1,Decline=1, MISS=1, UNDERPERFORM=1)*

	N	Mean	Median	Diff. (mean)	t-stat/(pvalue)
0	995	2.529	2.091		
1	1,784	2.763	2.271	0.234	2.65(0.008)
2	1,565	2.801	2.302	0.038	0.61(0.544)
3	893	3.094	2.548	0.293	3.34(<0.001)
4	222	3.563	3.075	0.469	3.09(0.002)

Panel C: Pearson (above the diagonal) and Spearman (below the diagonal) correlations between key variables

Variables	*FDSCORE*	*SIZE*	*σSALES*	*BM*	*NANAL*	*DISPERSION*	*EQ*	*SEO*	*DEBTISSUES*	*DECLINE*	*MISS*	*LOSS*	*UNDER-PERFORMANCE*
FDSCORE	1.000	−0.274	0.053	0.185	−0.177	0.022	0.004	−0.055	0.027	0.089	0.033	−0.012	0.073
SIZE	−0.249	1.000	−0.139	−0.297	0.820	−0.062	−0.160	−0.063	0.099	−0.019	−0.029	−0.172	−0.064
σSALES	0.104	−0.208	1.000	−0.111	−0.151	0.040	0.247	0.161	0.007	0.048	0.078	0.079	0.012
BM	0.191	−0.275	−0.173	1.000	−0.178	0.093	−0.116	−0.121	−0.061	0.173	0.061	0.083	0.099
NANAL	−0.158	0.832	−0.200	−0.176	1.000	−0.071	−0.165	−0.079	0.086	−0.023	−0.040	−0.169	−0.038
DISPERSION	0.041	−0.100	0.140	0.160	−0.085	1.000	0.066	0.021	−0.031	0.192	0.091	0.186	0.027
EQ	0.000	−0.182	0.288	−0.130	−0.185	0.116	1.000	0.123	−0.013	0.016	0.047	0.120	−0.043
SEO	−0.063	−0.067	0.159	−0.147	−0.079	0.057	0.130	1.000	0.125	0.009	0.055	0.154	0.010
DEBTISSUES	0.038	0.105	−0.001	−0.054	0.095	−0.069	−0.026	0.125	1.000	−0.009	0.003	−0.071	−0.034
DECLINE	0.089	−0.026	0.074	0.167	−0.033	0.480	0.021	0.009	−0.009	1.000	0.278	0.253	0.058
MISS	0.030	−0.036	0.073	0.040	−0.057	0.195	0.051	0.055	0.003	0.278	1.000	0.239	0.022
LOSS	−0.045	−0.178	0.086	0.009	−0.209	0.320	0.125	0.154	−0.071	0.253	0.239	1.000	0.143
UNDERPERFORMANCE	0.114	−0.111	−0.027	0.297	−0.045	0.174	−0.115	0.047	0.031	0.142	0.077	0.233	1.000

	R_t	X_t	X_{t3}	R_{t3}	*AG*	*EPt−1*	*FDSCORE*
R_t	1.000	0.183	-0.045	-0.073	0.157	-0.073	-0.107
X_t	0.308	1.000	-0.227	-0.007	-0.007	-0.542	-0.057
X_{t3}	−0.003	-0.153	1.000	0.186	-0.076	-0.139	-0.005
R_{t3}	0.002	0.038	0.350	1.000	-0.133	0.019	0.024
AG	0.189	0.136	-0.167	-0.069	1.000	0.043	-0.055
EPt−1	0.008	-0.257	-0.041	0.069	0.053	1.000	0.050
FDSCORE	−0.111	-0.063	0.002	0.013	-0.059	0.145	1.000

The sample consists of 5,459 observations during the period 1996–2007 for 1,273 UK listed non-financial firms with available accounting, stock price and analyst forecast data from Datastream and I/B/E/S. 1,138 observations are eliminated when further requiring stock price data. The Appendix defines the variables. *p*-value corresponds to a Wilcoxon non-parametric test (two-sided) for the difference in means between the sub-samples.

Table 3
The determinants of the frequency of forward-looking performance statements: information environment and situational incentives.

Variables			
$FDSCORE_{t-1}$		0.285***	0.285***
		(9.00)	(9.04)
SIZE	−0.321***	−0.223***	−0.251***
	(−8.54)	(−6.93)	(−7.35)
σSALES	0.143	0.118	0.093
	(1.57)	(1.23)	(1.02)
BM_{t-1}			−0.266***
			(−3.29)
BM	0.166**	0.147**	0.301***
	(2.18)	(2.06)	(3.49)
EQ	−0.164	−0.532	−0.591
	(−0.32)	(−1.31)	(−1.47)
NANAL	0.017	0.018*	0.022**
	(1.29)	(1.82)	(2.23)
DISPERSION	0.013	0.013	0.011
	(0.41)	(0.41)	(0.37)
SEO	−0.190***	−0.197***	−0.208***
	(−4.05)	(−3.39)	(−3.57)
DEBTISSUES	0.220***	0.163***	0.154***
	(2.76)	(3.08)	(2.91)
DECLINE	0.375***	0.364***	0.343***
	(5.28)	(4.85)	(4.90)
MISS	0.089**	0.058	0.062*
	(2.09)	(1.54)	(1.65)
LOSS	−0.062	0.032	0.030
	(−0.49)	(0.32)	(0.30)
UNDERPERFORMANCE	0.097***	0.078***	0.090***
	(3.18)	(4.27)	(5.05)
Year dummies	YES	YES	YES
Industry dummies	YES	YES	YES
Observations	5,459	4,824	4,824
Adj. R^2	0.1842	0.2617	0.2632

The sample consists of 5,459 observations during the period 1996–2007 for 1,273 UK listed non-financial firms with available accounting and analyst forecast data from Datastream and I/B/E/S. 635 observations are eliminated when including lagged frequency of forward-looking performance statements. The Appendix defines the variables. The */**/*** indicate significance at the 0.1/0.05/0.01 levels (two-tailed). We report the coefficient estimates from ordinary least squares (OLS) regressions of the frequency of forward-looking performance statements (*FDSCORE*) on a dynamic factor and variables proxying for the firm's information environment and situational incentives. *t*-statistics in parentheses are based on robust standard errors clustered by year and firm to control for cross-sectional dependence and heteroskedastic and autocorrelated residuals.

Table 4

Forward-looking disclosure (*FDSCORE*), situational incentives and share price anticipation ofn earnings.

Variables	Entire Sample			DebtIssues *DebtIssues*=1	Earnings declines *DECLINE*=1	Missed expectations *MISS*=1	Underperformance *UNDERPERFORM=1*	Multiple Situational Incentives
X_t	0.543***	0.485***	0.393***	0.482**	0.072	0.068	0.233	−0.001
	(4.41)	(4.86)	(2.87)	(2.03)	(0.28)	(0.38)	(1.26)	(−0.00)
X_{t3}	0.055	0.028	−0.046	−0.019	−0.041	−0.121	0.021	−0.089
	(1.07)	(0.73)	(−1.03)	(−0.15)	(−0.37)	(−1.24)	(0.24)	(−0.61)
R_{t3}	−0.039	−0.045	−0.044	−0.060	−0.069	−0.047	−0.081*	−0.108**
	(−0.82)	(−1.09)	(−1.09)	(−1.35)	(−1.63)	(−1.25)	(−1.82)	(−2.21)
AG	0.118***	0.099***	0.097***	0.115***	0.089***	0.102***	0.090***	0.112***
	(3.27)	(3.78)	(3.77)	(4.20)	(2.88)	(6.03)	(4.09)	(3.71)
EPt−1	0.126	0.129	0.119	0.449**	0.089	−0.070	−0.006	−0.039
	(0.86)	(1.16)	(1.03)	(2.24)	(0.65)	(−0.61)	(−0.04)	(−0.23)
FDSCORE			−0.013***	−0.011**	−0.020***	−0.008	−0.015**	−0.020***
			(−3.70)	(−2.15)	(−4.36)	(−1.63)	(−2.14)	(−4.27)
*FDSCORE*x X_t			0.027	0.065	0.040	0.085***	0.037	0.047
			(1.62)	(1.02)	(1.22)	(4.96)	(1.36)	(1.25)
*FDSCORE*xX_{t3}			0.024*	0.029	0.030*	0.028	0.021	0.031
			(1.65)	(1.16)	(1.89)	(1.20)	(1.59)	(1.28)
Year Dummies	NO	YES	YES	YES	YES	YES	YES	YES
Industry Dummies	NO	YES	YES	YES	YES	YES	YES	YES
Observations	4,321	4,321	4,321	2,000	1,567	1,671	1,352	841
Adj. R^2	0.0588	0.1242	0.1282	0.1615	0.1226	0.1331	0.1536	0.1816

The sample consists of 4,321 observations during the period 1996-2007 for 1,056 UK listed non-financial firms with available accounting, stock price and analyst forecast data from Datastream and I/B/E/S. The Appendix defines the variables. Multiple Situational Incentives include firm-year observations with at least two situational incentives among debt issues, earnings declines, missing of analyst forecasts and underperformance compared to the industry pears (*DebtIssues*, *DECLINE*, *MISS* and *UNDERPERFORM)*. The Appendix defines the variables. The */**/*** indicate significance at the 0.1/0.05/0.01 levels (two-tailed). We report the coefficient estimates from ordinary least squares (OLS) regressions of annual stock returns on contemporaneous and future earnings, the frequency of forward-looking performance statements within subsets of observations with situational incentives. *t*-statistics in parentheses are based on robust standard errors clustered by year and firm to control for cross-sectional dependence and heteroskedastic and autocorrelated residuals.

Table 5

Forward-looking disclosure (*FDSCORE*), situational incentives, earnings quality and share price anticipation of earnings.

	Entire Sample		DebtIssues *DebtIssues*=1		Earnings declines *DECLINE*=1		Missed expectations *MISS*=1		Underperformance *UNDERPERFORM=1*		Multiple Situational Incentives	
Variables	High Earnings quality	Low Earnings quality	High Earnings quality	Low Earnings quality	High Earnings quality	Low Earnings quality	High Earnings quality	Low Earnings quality	High Earnings quality	Low Earnings quality	High Earnings quality	Low Earnings quality
X_t	0.254**	0.489**	0.280	0.559*	−0.114	0.246	−0.135	0.412	0.158	0.414	0.061	0.098
	(2.16)	(2.30)	(1.25)	(1.90)	(−0.44)	(0.77)	(−0.81)	(1.30)	(0.61)	(1.42)	(0.22)	(0.24)
X_{t3}	−0.125	0.048	−0.153	0.052	−0.175	0.176	−0.262*	0.108	−0.044	0.187	−0.102	0.172
	(−1.58)	(0.58)	(−1.09)	(0.49)	(−0.87)	(1.01)	(−1.85)	(0.69)	(−0.34)	(1.39)	(−0.60)	(0.56)
R_{t3}	−0.053	−0.027	−0.040	−0.073	−0.075	−0.048	−0.065*	−0.024	−0.106**	−0.035	−0.079*	−0.112*
	(−1.29)	(−0.59)	(−1.04)	(−1.28)	(−1.63)	(−0.87)	(−1.78)	(−0.51)	(−1.97)	(−0.99)	(−1.90)	(−1.71)
AG	0.087***	0.104***	0.112***	0.109**	0.061**	0.110***	0.091***	0.119***	0.036	0.176***	0.020	0.162***
	(3.28)	(3.31)	(4.42)	(2.50)	(2.17)	(3.27)	(6.03)	(10.43)	(0.99)	(5.72)	(0.46)	(5.51)
EPt−1	−0.054	0.326*	0.076	0.734***	−0.075	0.414***	−0.185	0.297*	−0.026	0.094	−0.103	0.554**
	(−0.52)	(1.86)	(0.54)	(3.31)	(−0.41)	(2.65)	(−1.20)	(1.78)	(−0.16)	(0.41)	(−0.54)	(2.27)
FDSCORE	−0.015***	−0.005	−0.005	−0.016**	−0.016***	−0.019**	−0.015***	−0.004	−0.016***	−0.009	−0.017**	−0.013
	(−3.21)	(−1.63)	(−0.76)	(−2.23)	(−3.79)	(−2.32)	(−3.72)	(−0.39)	(−2.67)	(−0.84)	(−2.24)	(−0.92)
FDSCORExX_t	0.046**	0.023	0.164*	0.054	0.097*	0.014	0.120***	0.043	0.063	0.001	0.103*	0.020
	(2.32)	(0.90)	(1.80)	(0.89)	(1.78)	(0.31)	(3.34)	(1.17)	(1.59)	(0.03)	(1.93)	(0.32)
FDSCORExX_{t3}	0.032*	0.012	0.055*	0.023	0.061*	−0.000	0.071***	−0.010	0.027*	0.002	0.060***	−0.014
	(1.77)	(1.19)	(1.85)	(1.21)	(1.65)	(−0.02)	(3.24)	(−0.85)	(1.67)	(0.09)	(2.64)	(−0.29)
Year Dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry Dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	2,173	2,173	1,043	957	812	755	855	816	667	685	411	410
Adj. R^2	0.1611	0.1742	0.1445	0.1941	0.1336	0.1479	0.1492	0.1511	0.1844	0.1827	0.2427	0.2167

The sample consists of 4,321 observations during the period 1996-2007 for 1,056 UK listed non-financial firms with available accounting, stock price and analyst forecast data from Datastream and I/B/E/S. Low *EQ* includes firm-year observations with *EQ* (inverse measure of earnings quality) lower than the industry and year median. High *EQ* includes firm-year observations with *EQ* (inverse measure of earnings quality) higher than the industry and year median. Multiple Situational Incentives includes firm-year observations with at least two situational incentives among debt issues, earnings declines, missing of analyst forecasts and underperformance compared to the industry pears (*DebtIssues*, *DECLINE*, *MISS* and *UNDERPERFORM)*. The */**/*** indicate significance at the 0.1/0.05/0.01 levels (two-tailed). We report the coefficient estimates from ordinary least squares (OLS) regressions of annual stock returns on contemporaneous and future earnings interacted with the frequency of forward-looking performance statements within subsets of observations with situational incentives. *t*-statistics in parentheses are based on robust standard errors clustered by year and firm to control for cross-sectional dependence and heteroskedastic and autocorrelated residuals.

Table 6

Earnings quality as a gauge of management credibility

	Multiple Situational Incentives									
Variables	Low Earnings volatility	High Earnings Volatility	High Discretionary Earnings quality	Low Discretionary Earnings quality	Low Analyst Coverage	High Analyst Coverage	High earnings quality	Low earnings quality	Low Analyst Dispersion	High Analyst Dispersion
X_t	-0.103	0.285	0.036	-0.325	0.009	0.360	0.033	0.028	0.688	-0.194
	(-0.29)	(0.56)	(0.17)	(-0.60)	(0.04)	(0.81)	(0.12)	(0.07)	(1.38)	(-0.73)
X_{t3}	-0.201	0.168	-0.046	-0.209	-0.042	0.247	-0.108	0.198	0.037	-0.112
	(-1.09)	(0.75)	(-0.37)	(-1.06)	(-0.28)	(0.89)	(-0.67)	(0.69)	(0.24)	(-0.75)
R_{t3}	-0.137*	-0.051	-0.148***	-0.075	-0.086**	-0.173**	-0.079*	-0.116	-0.021	-0.104*
	(-1.78)	(-1.62)	(-5.69)	(-0.96)	(-2.15)	(-2.24)	(-1.89)	(-1.62)	(-0.36)	(-1.94)
AG	0.116**	0.006	0.162***	0.087**	0.144***	0.085*	0.018	0.166***	0.148	0.097*
	(2.35)	(0.16)	(5.04)	(2.23)	(4.18)	(1.85)	(0.40)	(5.40)	(1.48)	(1.74)
EPt−1	-0.164	-0.049	-0.090	0.033	-0.012	0.790	-0.109	0.534**	-0.085	-0.043
	(-0.70)	(-0.16)	(-0.49)	(0.07)	(-0.13)	(1.53)	(-0.61)	(2.20)	(-0.51)	(-0.24)
FDSCORE	-0.024***	-0.011	-0.013	-0.022**	-0.015	-0.024***	-0.017**	-0.017	-0.021*	-0.018*
	(-2.77)	(-1.55)	(-1.09)	(-2.28)	(-1.37)	(-2.94)	(-2.31)	(-1.19)	(-1.96)	(-1.81)
*FDSCORE*x X_t	0.074**	-0.055	0.120***	0.070	0.052	0.023	0.108*	0.019	-0.166	0.058
	(2.39)	(-0.68)	(2.94)	(1.45)	(1.14)	(0.24)	(1.88)	(0.33)	(-1.21)	(1.00)
*FDSCORE*xX_{t3}	0.053*	-0.023	0.065**	0.013	0.023	0.006	0.061***	-0.014	-0.127	0.035
	(1.89)	(-0.54)	(2.19)	(1.28)	(0.74)	(0.06)	(2.70)	(-0.32)	(-1.60)	(1.25)
DISPERSION							-0.001	-0.015**		
							(-0.65)	(-2.23)		
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	384	437	377	444	392	429	411	410	231	590
Adj. R^2	0.1989	0.1486	0.2971	0.1159	0.2102	0.1519	0.2346	0.2387	0.2109	0.1765

The original sample consists of 4,321 observations during the period 1996-2007 for 1,056 UK listed non-financial firms with available accounting, stock price and analyst forecast data from Datastream and I/B/E/S. In this table we retain only 821 observations of firms facing multiple situational incentives. Multiple Situational Incentives includes firm-year observations with at least two situational incentives among debt issues, earnings declines, missing of analyst forecasts and underperformance compared to the industry pears (*DebtIssues*, *DECLINE*, *MISS* and *UNDERPERFORM)*. The Appendix defines the variables. High (low) earnings quality includes firm-year observations with *EQ* (inverse measure of earnings quality) is lower (higher) than the industry and year median. Low (high) earnings variability includes firm-year observations with firm specific earnings variability (*σEARN*) is lower (higher) than the industry and year median. Low (high) analyst coverage includes firm-year observations where the number of analysts following the firm *(NANAL)* are below (above) the sample median. Low (high) analyst dispersion includes firm-year observations where the analyst forecast dispersion (*DISPERSION*) is below (above) the sample median. The */**/*** indicate significance at the 0.1/0.05/0.01 levels (two-tailed). We report the coefficient estimates from ordinary least squares (OLS) regressions of annual stock returns on contemporaneous and future earnings interacted with

the frequency of forward-looking performance statements within subsets of observations with situational incentives. *t*-statistics in parentheses are based on robust standard errors clustered by year and firm to control for cross-sectional dependence and heteroskedastic and autocorrelated residuals.

Table 7

Forward-looking disclosure (*FDSCORE*) and share price anticipation of earnings over time and across earnings quality

Variables	Entire Sample	High Earnings quality	Low Earnings quality
X_t	0.433***	0.290**	0.597**
	(2.97)	(2.03)	(2.57)
X_{t3}	0.007	-0.029	-0.007
	(0.12)	(-0.24)	(-0.05)
R_{t3}	-0.051	-0.057	-0.046
	(-1.07)	(-1.15)	(-0.86)
AG	0.103***	0.058***	0.129***
	(8.01)	(2.66)	(6.75)
EPt−1	0.176*	0.081	0.318*
	(1.77)	(0.65)	(1.68)
FDSCORE	-0.006	-0.010**	-0.001
	(-1.10)	(-1.97)	(-0.11)
*FDSCORE*x X_t	0.026	0.186***	-0.031
	(0.44)	(3.39)	(-0.69)
*FDSCORE*xX_{t3}	-0.066	0.027	-0.004
	(-1.35)	(0.99)	(-0.11)
TIME	0.001	-0.006***	0.010***
	(1.51)	(-10.28)	(6.57)
FDSCORE x X_t x *TIME*	-0.001	-0.023**	0.007
	(-0.05)	(-2.42)	(1.16)
*FDSCORE*xX_{t3} x *TIME*	0.013**	0.006	0.016***
	(2.26)	(0.79)	(3.15)
Year Dummies	YES	YES	YES
Industry Dummies	YES	YES	YES
Observations	2,831	1,526	1,305
Adj. R^2	0.1369	0.1228	0.1475

The sample consists of 2,831 observations during the period 1996-2007 for a sample of 394 UK listed non-financial firms with at least five years available accounting, stock price and analyst forecast data from Datastream and I/B/E/S. The Appendix defines the variables. High (low) earnings quality includes firm-year observations with *EQ* (inverse measure of earnings quality) is lower (higher) than the industry and year median. *TIME* is a trend variable equal to the difference between the current year and 1996. The */**/*** indicate significance at the 0.1/0.05/0.01 levels (two-tailed). We report the coefficient estimates from ordinary least squares (OLS) regressions of annual stock returns on contemporaneous and future earnings interacted with the frequency of forward-looking performance statements and a time trend. *t*-statistics in parentheses are based on robust standard errors clustered by year and firm to control for cross-sectional dependence and heteroskedastic and autocorrelated residuals.